

PKN (N-19): sc-1843

BACKGROUND

Rho, the Ras-related small GTPase, is responsible for the regulation of Actin-based cytoskeletal structures including stress fibers, focal adhesions and the contractile ring apparatus. Rho proteins act as molecular switches which are able to turn cytokinesis on and off. Although little is known about signaling downstream of Rho, several proteins have been implicated as Rho effectors. Protein kinase N (PKN) is a fatty acid-activated serine/threonine kinase whose catalytic domain exhibits homology with that of the PKC family. PKN associates with Rho via its amino terminus, is activated in a GTP-dependent manner and phosphorylates the head-rod domain of neurofilament protein. A second protein, rhophilin, exhibits 40% sequence identity with the amino terminal Rho binding domain. The enzymatic activity of rhophilin has not been demonstrated and it is possible that it acts through the recruitment of cytoskeletal components that initiate a kinase signaling cascade. Citron interacts specifically with active Rho and Rac 1 but not Cdc42. Citron exhibits a distinctive protein organization and little homology with the Rho binding domains of PKN and rhophilin.

REFERENCES

1. Kitagawa, M., et al. 1995. Purification and characterization of a fatty acid-activated protein kinase (PKN) from rat testis. *Biochem. J.* 310: 657-664.
2. Madaule, P., et al. 1995. A novel partner for the GTP-bound forms of rho and rac. *FEBS Lett.* 377: 243-248.
3. Amano, M., et al. 1996. Identification of a putative target for Rho as the serine-threonine kinase protein kinase N. *Science* 271: 648-650.
4. Mukai, H., et al. 1996. PKN associates and phosphorylates the head-rod domain of neurofilament protein. *J. Biol. Chem.* 271: 9816-9822.
5. Kitagawa, M., et al. 1996. The role of the unique motifs in the amino-terminal region of PKN on its enzymatic activity. *Biochem. Biophys. Res. Commun.* 220: 963-968.

CHROMOSOMAL LOCATION

Genetic locus: PKN1 (human) mapping to 19p13.12; Pkn1 (mouse) mapping to 8 C2.

SOURCE

PKN (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of PKN of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-1843 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

PKN (N-19) is recommended for detection of PKN of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

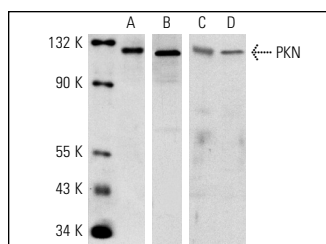
PKN (N-19) is also recommended for detection of PKN in additional species, including canine and bovine.

Suitable for use as control antibody for PKN siRNA (h): sc-36261, PKN siRNA (m): sc-36262, PKN shRNA Plasmid (h): sc-36261-SH, PKN shRNA Plasmid (m): sc-36262-SH, PKN shRNA (h) Lentiviral Particles: sc-36261-V and PKN shRNA (m) Lentiviral Particles: sc-36262-V.

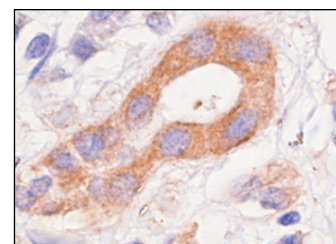
Molecular Weight of PKN: 120 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204 or H4 cell lysate: sc-2408.

DATA



Western blot analysis of PKN expression in Jurkat (**A,C**) and H4 (**B,D**) whole cell lysates. Antibodies tested include PKN (N-19): sc-1843 (**A**), PKN (C-19): sc-1842 (**B**) and PKN (H-234): sc-7161 (**C,D**).



PKN (N-19): sc-1843. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human pancreas tissue showing cytoplasmic staining.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

MONOS
Satisfaction
Guaranteed

Try **PKN (H-4): sc-393344** or **PKN (A-8): sc-7969**, our highly recommended monoclonal alternatives to PKN (N-19).